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(54) Title: MOBILE PAYMENT SYSTEM

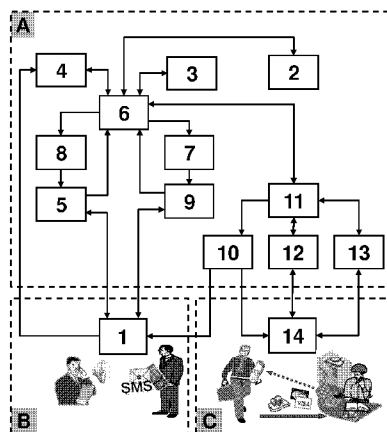


Fig. 1

- A - Mobile payment system
B - Phone users
C - Mobile payment terminal
1 - Customer's phone (calls and SMS messages)
2 - Database of registered customers
3 - Database of prepaid accounts
4 - Database of registered products and services
5 - Intelligent PBX
6 - Central control system
7 - Database of SMS messages
8 - Database of voice messages
9 - SMS centre for both landline and mobile networks
10 - Module for issuing tax receipts
11 - Module of payment records
12 - Module for receiving cash payments
13 - Module for receiving payments by credit cards
14 - Mobile terminal for receiving and registering payments in cash or by credit card

(57) Abstract: The mobile payment system consists of the database of the registered customers data (2) connected via the central control system feedback (6) to the database (3) of prepaid accounts and the database (4) of registered products and services; the database (8) of voice messages is connected to the central control system (6) and the intelligent PBX (5) linked to the central control system (6) which is connected to the database (7) of SMS messages interconnected with the SMS centre (9) for both landline and mobile networks used by the customer's phone (1) connected via feedback to the intelligent PBX (5). The central control system (6) is connected via feedback to the module (11) of payment records linked via feedback to the module (12) for receiving the payments in cash and the module (13) for payments by credit cards, which is connected via feedback to the mobile terminal (14) for receiving and registering payments linked to the module (10) for issuing the tax receipt linked up with the user's phone (1).

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Mobile Payment System

Technical Fields

The invention includes complementing and extending the existing mobile payment systems designed for small payments for various products and services using a phone and prepaid account or prepaid card.

Background Arts

Mobile phone payments are made for instance using the phone payment system protected by the utility model CZ19996. The model provides the users of both mobile and landline phones with an easy and fast way to make small payments for products and services using a prepaid account or premium SMS messages, using and integrating the elements usually used for mobile payments.

A disadvantage of this and other similar systems is the fact that mobile phone users cannot use other payments methods to purchase products or services related to their mobile phone, such as payment in cash and by credit card or SMS micropayments activated by a dropped call or sending an SMS, like registered customers because the systems of service providers are cannot process and register these payments and deliver the paid services in an electronic form to the mobile phone. Operators and service providers need a system that would register all payments made in various ways and deliver the paid service in an electronic form to the user's mobile phone even if the payment is made in cash or by credit card.

Disclosure of Invention

These shortcomings are eliminated by the mobile payment system based on this technical solution. It consists of the database of registered customers connected to the database of prepaid accounts and the database of registered products and services using the central control system feedback. The central control system is also connected to the database of voice messages linked to the intelligent PBX. The PBX is connected to the central control system which is linked to database of SMS messages interconnected with the SMS centre for both landline and mobile networks. The customer's phone is connected to the SMS centre and to the intelligent PBX using feedback. Feedback is also used to connect the central control system to the module of payment records, which is linked to the module for receiving cash payments and the module for payments by credit card. The latter module is then connected to the mobile terminal for receiving and registering payments linked to the module for issuing tax receipts linked up with the customer's phone.

The aim of the mobile payment system is to provide mobile phone users, and with certain restrictions also landline phone users, with an easy and fast way of making payments for products and services and using other common payment channels, especially for the purchase of electronic products and services for mobile phones. The operator of the mobile payment system based on this technical solution is provided with an easy, inexpensive and comfortable way to enable the above mentioned mobile payments and to get an overview of all the payments for the service, regardless of the payment method used by the customer using commercially available devices (PCs, laptops, tablets, smartphones) at the mobile payment terminals of the mobile payment system operator or product and service providers.

The mobile payment system creates a compact and complex functional system enabling the implementation of previously unknown and unused operations in payments.

The extension complements the existing system with the option to use other payment channels, i.e. receiving and registering payments in cash or by credit card at the so-called mobile payment terminals. To enable and register the collection of the payments, commonly available mobile devices (laptops, tablets, smart mobile phones, etc.) equipped with Internet access and a software application for communication with the mobile payment system can be used. The addition of the module for registering all the made payment transactions to the existing payment system and the extension of the central control system features provides users with new ways to control payments from their phone, access to tax receipt, reports and summaries of made payments with the option to issue invoices and export the overview and reports on made payments according to the criteria specified by the user.

This interconnection of the mobile payment system elements with the assignment of phone numbers to products and services stored in the database of registered products and services and the decision logic contained in the central control system, together with the intelligent PBX, SMS centre and modules for receiving and registering payments, will provide both unregistered and registered customers and customers with prepaid accounts with access to the complex system of both known and previously unknown methods of payment and both payment and non-payment transactions. The module of payment records provides the system operator with an overview of all charges for the product or service, regardless of the payment method used by the customer during the purchase. Unregistered and registered customers and customers with prepaid accounts will be able to use of a complex system combining both known and previously unknown methods of payments and transactions, i.e. dropped calls to the service number or SMS messages to the number assigned to the product or service and subsequent delivery of the paid service to the customer's phone. The system enables all mobile phone users to pay in cash or by credit card at the mobile payment terminal of the provider and receive the paid service to their mobile phones. The payment from a (family) subscribed account allows the system to register multiple phone numbers, regardless of the phone type. Operators and service providers will be allowed to sell services even at their mobile payment terminals in an easy and inexpensive way and to make clear records of all types of payments for services, regardless of the payment method used by the customer.

Advantages of the mobile payment system for the customer:

- An easy and inexpensive way of making payments for selected services using a mobile phone;
- A comprehensive selection of payment methods;
- Automatic notification of the expiration of time-limited services with an option of extension.

Advantages of the mobile payment system for system operators and service providers:

- Easy and inexpensive sale of services also at mobile payment terminals;
- Clear records of all kinds of payments for services with an option to export overviews and reports into a file for further processing;
- Easy access to data for inspection, especially the time validity of the purchased products and services.

Brief Description of Drawings

The mobile payment system, shown in Figure 1, is a block diagram of connections between the databases and the system elements.

Made for Carrying out the Invention

The mobile payment system, shown in Figure 1, consists of the database of registered customers 2 connected through the central control system 6 to the database 3 of prepaid accounts and the database 4 of registered products and services using feedback. The central control system is further connected to the database of voice messages linked to the intelligent PBX connected to the central control system 6 which is linked to database 7 of SMS messages connected to the SMS centre 9 for both landline and mobile networks. The customer's phone 1 is connected to the SMS centre and to the intelligent PBX 5 using feedback. Feedback is used to connect the central control system 6 to the module of payment records 11 of payment records to the module 12 for receiving payments in cash and the module 13 for payments by credit card, which is connected to the mobile terminal 14 for receiving and registering payments linked to the module 10 for issuing tax receipts linked up with the customer's phone 1.

Mobile phone users 1, drawn in the block B, activate and control the payment using their phones. They can either register their phone 1 or set up a prepaid account and register the services that they would like to pay for regularly. To activate or confirm the payment, the users can make a dropped call to the service number or send an SMS to the number assigned to the product or service. Then they are provided with feedback on the outcome of the

payment transaction in a text or voice message. They can also receive a tax receipt for each payment or its review for a certain period of time.

The number of payments made by registered users is restricted by the limit for payment SMS messages, which is more than sufficient for small payments for services, such as SMS tickets and SMS parking tickets or other similar services. The number of payments made by users of prepaid accounts is limited only by their account balance.

System operators or providers of products services, drawn in the block C, can accept payments in cash or by credit card and register them in the system on mobile terminals 14 for receiving and registering payments equipped with commonly available mobile devices (laptops, tablets, smart mobile phones, etc.) with access to the Internet access and the software application for communication with the mobile payment system. They can also transfer the product or service to the customer's mobile phone and issue the corresponding invoice. In the module 11 of payment records, system operators have access to the list of all payments for the service or product, regardless of the payment method used by the customer during the purchase.

There are plenty of examples of the use of the mobile payment system. For example, it could be used to pay for services, such as SMS tickets and SMS parking tickets, or to make mobile payments for regulatory fees in health facilities and a number of other minor products and services linked to the mobile phone. The elements of the mobile payment system, connected as shown in Figure 1, support the mobile phone user with several payment methods to buy an SMS ticket (or a similar service) and have it available in their mobile cell phone for potential inspection. The phone user (as a customer) can pay for the service using various methods:

- 1) The customer registers their phone in the system or sets up a prepaid account and registers the SMS ticket service (SMS parking ticket) they would like to pay for regularly. To pay for the ticket (parking), the user makes a dropped call to the service number or sends an SMS to the number assigned to the SMS ticket service (SMS parking). The SMS ticket (SMS parking ticket) is sent to the user's mobile phone. The user can receive an electronic tax receipt for each made payment and print it. The data for inspection is integrated into the SMS ticket (SMS parking ticket) and available to the service provider inspectors in the mobile payment system.
- 2) The customer visits a mobile payment terminal of the operator, where they can buy a ticket (parking ticket) and pay in cash or by credit card. The operator registers the payment to the mobile payment system, and the system will send the SMS ticket (SMS parking ticket) to the customer's mobile phone. The data for inspection is integrated into the SMS ticket (SMS parking ticket) and available to the service provider inspectors in the mobile payment system. The customer can request the electronic or printed tax receipt at the mobile payment terminal.

Industrial Applicability

The mobile payment system can be used for service payments and operational inspection of their execution.

PATENT CLAIMS

1. The mobile payment system consists of the database of the registered customers data (2) connected via the central control system feedback (6) to the database (3) of prepaid accounts and the database (4) of registered products and services; the database (8) of voice messages is connected to the central control system (6) and the intelligent PBX (5) linked to the central control system (6) which is connected to the database (7) of SMS messages interconnected with the SMS centre (9) for both landline and mobile networks used by the customer's phone (1) connected via feedback to the intelligent PBX (5). The central control system (6) is connected via feedback to the module (11) of payment records linked via feedback to the module (12) for receiving the payments in cash and the module (13) for payments by credit cards, which is connected via feedback to the mobile terminal (14) for receiving and registering payments linked to the module (10) for issuing the tax receipt linked up with the user's phone (1).

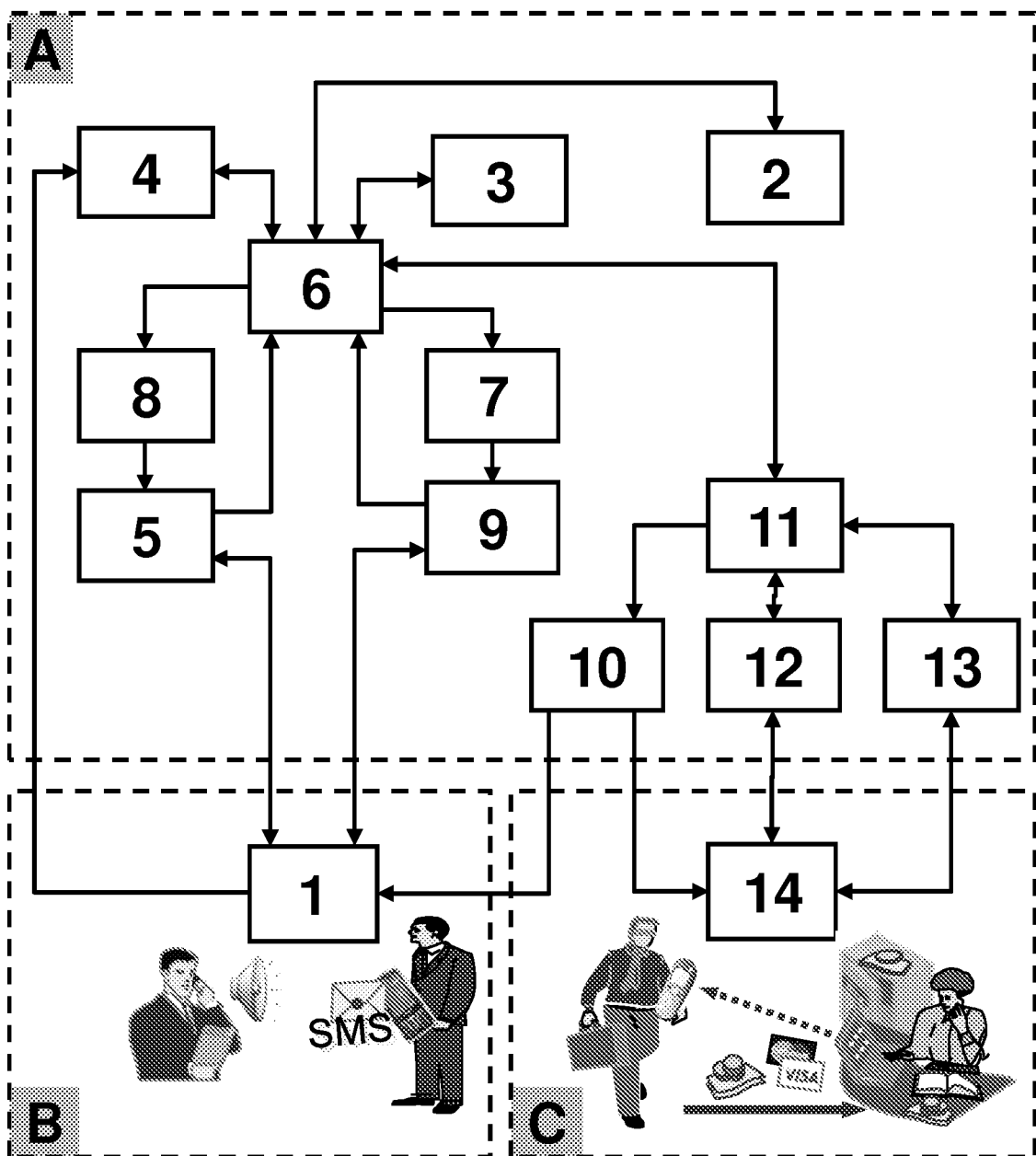


Fig. 1

Overview of reference signs

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B - Phone users

C - Mobile payment terminal

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3 - Database of prepaid accounts

4 - Database of registered products and services

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6 - Central control system

7 - Database of SMS messages

8 - Database of voice messages

9 - SMS centre for both landline and mobile networks

10 - Module for issuing tax receipts

11 - Module of payment records

12 - Module for receiving cash payments

13 - Module for receiving payments by credit cards

14 - Mobile terminal for receiving and registering payments in cash or by credit card